

LISTING OF CLAIMS

1(currently amended). A film comprising conducting polymer applied from a dispersion containing particles having a particle size of less than about 450 nm, wherein the conducting polymer comprises substituted or unsubstituted, uncharged or charged polymerized units of thieno[3,4-b]thiophene, and wherein a film drop cast from the dispersion has a conductivity from about $[[10^{-1}]]$ 10^{-2} to 10^{-6} S/cm measured using the four point probe method.

2(currently amended). The film of claim 1 wherein said particle size is less than about 200 nm.

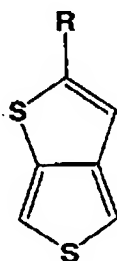
3(cancelled).

4(currently amended). The film of claim 1 wherein said film has a conductivity of from about 10^{-2} to 10^{-5} S/cm.

5(cancelled).

6(currently amended). The film of claim 2 wherein said film has a conductivity of from about 10^{-2} to 10^{-5} S/cm.

7(original). The film of claim 1 wherein the conducting polymer comprises substituted or unsubstituted, uncharged or charged polymerized units of



(I)

where R is hydrogen, substituted or unsubstituted (C₁-C₁₈)-alkyl, preferably (C₁-C₁₀)-alkyl, in particular (C₁-C₆)-alkyl, for example, *t*-butyl, (C₃-C₇)-cycloalkyl, (C₁-C₁₈)-alkyloxy, preferably (C₁-C₁₀)-alkyloxy, or (C₂-C₁₈)-alkyloxy ester, phenyl and substituted phenyl, SF₅.

8(currently amended). A dispersion comprising water, at least one member selected from the group consisting of polymeric sulfonic acids and polystyrene sulfonic acids, and at least one conducting polymer containing particles having a particle size of less than about [[450]] 200 nm, wherein the conducting polymer comprises ~~substituted or unsubstituted, uncharged or charged~~ polymerized units of a polythiophene thieno[3,4-b]thiophene, and wherein a film drop cast from the dispersion has a conductivity from about [[10⁻¹]] 10⁻² to 10⁻⁶ S/cm when measured using the four point probe method.

9(currently amended). The dispersion of claim 8 wherein said ~~particle size is less than 200 nm~~ member comprises polymeric sulfonic acids.

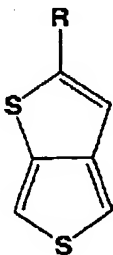
10(currently amended). The dispersion of claim 8 wherein said film ~~has a conductivity of from 10⁻² to 10⁻⁶ S/cm~~ member comprises polystyrene sulfonic acids.

11(original). The dispersion of claim 8 wherein said film has a conductivity of from 10⁻² to 10⁻⁵ S/cm.

12(currently amended). The dispersion of claim ~~[[9]]~~ 8 wherein said film ~~has a conductivity of from 10⁻² to 10⁻⁶ S/cm~~ has a rectification ratio of greater than about 75 when assembled into an optoelectronic device.

13(original). The dispersion of claim 9 wherein said film has a conductivity of from 10⁻² to 10⁻⁵ S/cm.

14(original). The dispersion of claim 8 wherein the conducting polymer comprises substituted or unsubstituted, uncharged or charged polymerized units of



(I)

where R is hydrogen, substituted or unsubstituted (C₁-C₁₈)-alkyl, preferably (C₁-C₁₀)-alkyl, in particular (C₁-C₆)-alkyl, for example, *t*-butyl, (C₃-C₇)-cycloalkyl, (C₁-C₁₈)-alkyloxy, preferably (C₁-C₁₀)-alkyloxy, or (C₂-C₁₈)-alkyloxy ester, phenyl and substituted phenyl, SF₅.

15(currently amended). An optoelectronic device comprising a substrate, an anode a cathode and a first film located between the anode and cathode that comprises ~~comprising conducting polymer applied from a dispersion containing particles having a particle size of less than 450 nm, wherein the conducting polymer comprises substituted or unsubstituted, uncharged or charged polymerized units of thieno[3,4-b]thiophene, and wherein [[a]] the first film drop cast from the dispersion has a conductivity from [[10⁻¹]] about 10⁻² to 10⁻⁶ S/cm measured using the four point probe method and wherein the~~ device has a rectification ratio of greater than about 75; and a second polymeric film.

16(currently amended). The optoelectronic device of claim 15 wherein said device [[is]] comprises a member selected from the group consisting of a light emitting diode, a photovoltaic device, and a laser diode.

17(currently amended). The optoelectronic device of claim 15 wherein said first film [[is]] comprises a hole injection layer.

18(currently amended). The optoelectronic device of claim 15 wherein said first film [[is]] comprises a hole transport layer.

19(currently amended). The optoelectronic device of claim 15 wherein said first film [[is]] comprises a hole injection and hole transport layer.

20(currently amended). The optoelectronic device of claim 15 wherein ~~said film has a conductivity of from 10⁻² to 10⁻⁶ S/cm~~ the second film comprises a light emitting polymer that comprises at least one member selected from the group consisting of poly(phenylene vinylene)s and polyfluorenes.

21(currently amended). The optoelectronic device of claim ~~[[15]]~~ 20 wherein said film-
~~has a conductivity of from 10^{-2} to 10^{-5} S/cm. the second film comprises a poly(phenylene~~
vinylene) and said poly(phenylene vinylene) comprises poly(2-methoxy, 5-(2'-ethyl-
hexyloxy)-p-phenylene-vinylene).

22(new). The optoelectronic device of Claim 15 wherein said device comprises a light
emitting diode and has a brightness at a current density of 100mA/cm² of greater than
about 830.

23(new). The optoelectronic device of Claim 15 wherein the device comprises a
photovoltaic device, said first film comprises a hole transport layer, and said second film
comprises at least one member selected from the group of semiconductive hole
transporting layer and semiconductive electron transporting layer.